

Applicant: James Man
Application No.: 10/067,606
Filing Date: February 5, 2002
Docket No.: 669-78
Page 7

REMARKS

Reconsideration of the application as amended is respectfully requested.

Basis for Proposed Amendments

Claim 2 has been amended to clarify that the angle stop ensures that the elements cannot be coupled to create an uphill rise downstream thereof. Support for this amendment can be found on page 10, first full paragraph of the specification (paragraph [0051] of the application as published).

New claim 19 has been added. This claim adds an additional angle stop element to the device to prevent coupling which could create an uphill rise to a downstream element. Support for this claim is also found on page 10, first full paragraph of the specification (paragraph [0051] of the published application.)

Accordingly, applicant submits that no new matter is being added and the amendments are proper and should be entered.

35 U.S.C. 103 (Obviousness) Rejection

Claims 1-6 have been rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Crawford ('154) in view of Stafford ('921). This rejection is respectfully traversed.

The Examiner's position regarding these two references remains substantially unchanged since the original Office Action. The Examiner essentially states that Crawford teaches the coupling of two tubing elements, each of which have a coupler portion and an attachment bell at opposite ends, via a connector. The Examiner then states that Stafford discloses a ball and socket-type union, which employs a seal (16) to prevent leakage. The Examiner then combines the ball and socket device of Stafford with the Crawford assembly stating that it would be obvious to take the seal of Stafford and employ it in the Crawford assembly.

The Examiner further alleges that the encircling shoulder 3 of Stafford provides an "angle stop" to prevent the joint from articulating beyond the point of contact between the shoulder and the socket, stating that it would be obvious to one of ordinary skill in the art to provide such a feature on the Crawford joint to limit its articulation. These rejections are respectfully traversed.

The begin with, the Examiner clearly admits that Crawford fails to disclose a seal that fits between the first and second coupler portion. In fact, the ball and socket joint of Crawford is made to be water-tight by screwing nut E (having an internal annular flange e), against the exterior portion of ball F', which causes the lower end of the ball F' to be held "water-tight"

against the seat C⁴. This causes a fluid-tight connection to be made. There is no teaching or suggestion in this reference that the design can accommodate an additional element, and in fact, to do so, would be contrary to how this water-tight connection in Crawford is, in fact, made and operates.

The Examiner has then taken the Stafford reference, which states as one of its primary objectives, the formation of a fluid-type joint "without employing any gaskets or packing of other material than metal" (column 1, lines 19-23) and alleges that the combination of Stafford with Crawford renders the present invention obvious. Stafford uses an adjustable packing ring 16, which serves the purpose of allowing "a tight joint under all positions of the pipes within the limits of the coupling" (lines 91-94). Stafford positions packing ring 16 inside of nut 12, but external to members 1 and 6, which provide for the coupling of the tube pipes. There is sufficient space between nut 12 and the shoulder of member 1 to permit placement of this packing ring and allow for movement of the joint. Stafford's device is designed specifically to accommodate this packing ring within the nut such that it can be tightened against the curved shoulder of member 1. The packing ring apparently rides up and down the shoulder as the joint is articulated in the up and down direction.

The Examiner's position that packing ring 16 is "between" the first and second coupling elements, is therefore not understood. The Examiner appears to be calling nut 12 a coupling member. This is contrary to what Stafford shows. The coupling members are members 1 and 6,

respectively. Nut 12 is used to tighten members 1 and 9 against each other. Nut 12 in Stafford is comparable to the threaded connector 24 of the present invention. Thus, the packing ring 16 of Stafford cannot be between the two coupling members, because it is in fact internal to nut 12.

The Examiner's contention that it would be obvious to take the wedge shape packing ring 16 of Stafford and insert it into the ball and socket joint of Crawford is therefore untenable. To begin with, there must be some motivation to combine the references. In the present case, and as previously stated in a prior response, this motivation is entirely absent. Crawford's design specifically states it is intended to operate without a gasket or sealing member. As such, the parts of Crawford are designed to fit closely together, thereby preventing fluid leakage. To modify the design of Crawford, by placing a wedged shaped adjustable packing ring such as shown by Stafford would destroy the intent and purpose of Crawford. This is not permissible under the current state of the law and as such, these references are not properly combinable.

Moreover, even if one would to attempt to combine the teachings of these references, at best, Stafford would suggest putting the seal either between the nut E and the curved socket C⁴ or between the nut E and the curved portion F', but not between C³ and F'. Thus, at best, one could not arrive at the present invention using the teachings of these two references. As expressed above, however, these references are not properly combinable because to do so would destroy the very intent and design of the Crawford reference.

Applicant has already submitted additional arguments with respect to lack of motivation, which are equally applicable here, but are not necessary to repeat in view of the above discussion.

Additionally, the sealing member present in Applicant's claims must be flexible, such that it can be sufficiently resiliently compressed to form a liquid tight seal. Such characteristic cannot be said to be present in the adjustable packing ring of Stafford, particularly since the Stafford packing ring must be made of metal. Moreover, it cannot be said to be a gasket material, since this expressly dictates against a recited objective of Stafford.

The Examiner has stated that Crawford meets the limitations of claims 3, 4, 5 and 7. Additionally, with respect to claim 6, the Examiner states that although Crawford is completely silent as to the exact angle subtended by the outer portion of the ball element, it would be obvious to increase or decrease the surface area of the ball to concomitantly increase or decrease the range of angles over which the joint may be articulated. Since each of these claims depends from claim 1, which is believed to be in condition for allowance, claims 3, 4, 5 and 7 are also believed to be allowable.

With respect to the Examiner's rejection of claims 8, 15 and 16, based on the wedge-shaped gap (16) shown in Stafford, the Examiner has mischaracterized the wedge shaped adjustable ring of Stafford as a "gasket". This is incorrect and is stated as such by Stafford, lines

Applicant: James Man
Application No.: 10/067,606
Filing Date: February 5, 2002
Docket No.: 669-78
Page 12

19-23. Applicant believes that claims 8, 15 and 16, depend ultimately from claim 1, and are therefore also allowable. The same argument is applicable to the rejection of claim 9.

Finally, with respect to claims 10-14, it should be pointed out that again the Examiner has mischaracterized the Stafford adjustable ring as being a gasket and moreover, has further modified that adjustable ring to make it compressible. In fact, such a modification is directly opposed to Stafford's explicit teachings of not using a gasket. The adjustability of Stafford's ring appears to be related to the fact that it rides along the shaped shoulder of member 1, as shown in Figures 1 and 2, and not to its compressibility, as recited in Applicant's claims. To further suggest that the Stafford reference should also be modified contrary to one of its objectives, is also improper as a matter of law. It is not, as the Examiner suggest, a simple matter of design choice. In fact, the Examiner has used impermissible hindsight in combining these references, and modifying the references, each against their express teachings, to attempt to arrive at Applicant's claims.

Additionally, as pointed out during the telephonic interview, Applicant's "angle stop" is integral with the connector portion. This is in contrast with the shoulder (3) of Stafford which is shaped to permit both upward and downward articulation of the joint.

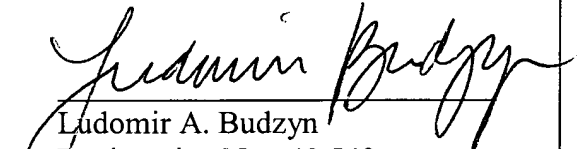
In summary, the Examiner appears to have misconstrued the adjustable packing ring 16 of Stafford as being a gasket material, in contrast to Stafford's teachings. In doing so, the

Applicant: James Man
Application No.: 10/067,606
Filing Date: February 5, 2002
Docket No.: 669-78
Page 13

Examiner has in fact modified the teachings of Stafford. The Examiner has then taken teachings of Stafford and applied it to the Crawford device which then so modifies Crawford as to change its intent and purpose.

In view of the above, the rejection of the pending claims under 35 U.S.C. §103 over Crawford in view of Stafford should be withdrawn. The claims are believed to be allowable over the art and in proper form for allowance. If the Examiner has any questions regarding this response, she is urged to contact the undersigned.

Respectfully submitted,


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